SERVICE & PARTS MANUAL

Power Saver II Electric Convection Oven

Models:

2600HE

2692HE

2800HE

2892HE

MARKET FORGE CANADA LTD.
Mississauga, Ontario, Canada
Form Number 17-0393 3/81

Market Forge Industries Inc.
Employee Owned Company
Everett, Massachusetts 02149

TABLE OF CONTENTS

Paragraph	Page
SECTION 1 INTRODUCTION	
1.1 Description	1-1
1.2 Oven Components	1-1
1.3 Basic Functioning	1-1
1.4 Service	1-1
SECTION 2 INSTALLATION	
2.1 Receiving	2-1
2.2 Assembly	2-1
2.2. 1 Single Oven On Modular Base	2-1
2.2.2 Oven On *7"{178mm)* Stand	2-1
2.2 3. Stacked Ovens On 7" *(178mm)* Stand	2-1
2.2.4 Oven on 28"(*711 mm)* Open Stand	2-1
2.3 Electrical Connection	2-3
2.4 Installation Check-Out	2-3
2.4.1 Oven Check Out & Adjustments	2-3
2.4.2 Shut-Down Procedure	2-4
SECTION 3 OPERATION	
3.1 Operating Controls and Indicators	3-1
3.2 Operating Procedures	3-1
3.2.1 Preheating	3-1
3.2.2 Cooking	3-1
SECTION 4 PRINCIPLES OF OPERATION	
4.1 General	4-1
4.2 Heating Circuits	4-1
4.3 Electrical Circuits and Controls	4-1
4.3.1 Circuit Breaker	4-1
4.3.2 On-Off Switch	4-1
4.3.3 Door Interlock Switch	4-1
4.3.4 Thermostat Control	4-1
4.3.5 Indicator Light	4-1
SECTION 5 TROUBLE-SHOOTING	
5.1 General	5-1
5.2 Trouble-Shooting Guide	5-1
5.3 Electrical Fault Isolation	5-2
5.4 Electrical Trouble-Shooting Procedures	5-2
5.4.1 Incoming Power	5-2
5.4.2 Electrical Inspection	5-2
5.4.3 Thermostatic Control	5-2
5.4.3.1 Thermostat Contacts	5-2
5.4.3.2 Thermostat Capillary	5-2
5.4.4 Wiring	5-3
SECTION 6 MAINTENANCE	
6.1 General	6-1
6.2 Preventive Maintenance	6-1
6.3 Adjustment Procedures	6-1
6.3.1 Oven Door Adjustments	6-1
6.3.1.1 Door Catch Adjustment	6-1
6.3.1.2 Door Switch Adjustment	6-1
6.3.1.3 Oven Door Horizontal Adjustment	6-2
6.3.1.4 Oven Door Vertical Adjustment	6-2
6.4.1 Control Panel and Contactor Removal	6-2
6.4.2 Right Side Panel Removal	6-2
6.4.3 Fan Disassembly and Repair	6-2
6.4.3.1 Fan Blade Removal	6-2
6.4.3.2 Fan Motor Removal	6-3
6.4.4 Heating Element Removal	6-3
6.4.4.1 Rear Heating Element Removal	6-3
6.4.4.2 Bottom Heating Element Removal	6-3
6.4.5 Thermostat Removal	6-3
SECTION 7 ILLUSTRATED PARTS LIST	
7.1 General	7-1
7.2 Ordering Information	7-1
7.3 Index Of Illustrated Parts List	7-1

LIST OF ILLUSTRATIONS

Figure		Page
SECTION 2 INSTALLATION		
2-1	Counter Stand Assembly	2-2
2-2	Stacked Oven Assembly	2-2
2-3	Open Stand Assembly (Inverted)	2-2
2-4	Electrical Connection	2-3
SECTION 3 OPERATION		
3-1	Operating Controls & Indicators	3-2
SECTION 5 TROUBLE SHOOTING		
5-1	Wiring Diagram, 208/240 V	5-4
5-1	Wiring Diagram, 440/480 V	5-5
5-3	Wiring Diagram, 220/240/380/415V.	5-6
5-4	Schematic Diagram, 208/240/380 V.	5-7
5-5	Schematic Diagram, 440/460/480 V.	5-8
SECTION 6 MAINTENANCE		
6-1	Blower Guard/Deflector Assembly	6-1
6-2	Wheel Puller Kit Components	6-2
SECTION 7 ILLUSTRATED PARTS LIST		
7-1	Cabinet & Frame Assembly	7-2
7-2	Door Assembly	7-4
7-3	Heating Element Assembly	7-6
	Control Panel Assembly	7-8

LIST OF TABLES

Table		Page
SECTION 3 OPERATION		
3-1	Operating Controls & Indicators	3-2
SECTION 5 TROUBLE-SHOOTING		
5-1	Trouble-Shooting Guide	5-1
5-2	Electrical Fault Isolation Guide	5-3

SECTION 1 INTRODUCTION

This service and parts manual contains general information, installation, operation, principles of operation, trouble-shooting and maintenance information for the Market Forge Power Saver II High Efficiency Electric Convection Oven. Also included are parts lists, in which each replaceable part is identified and shown in an accompanying exploded view.

1.1 DESCRIPTION

The Market Forge Power Saver II High Efficiency Electric Convection Oven is an electrically powered convection oven designed to achieve high-volume cooking with a minimum of power consumption. The unit consists of a heavily insulated cooking compartment fitted with a convector fan and heated by electric elements. All oven controls are located on a recessed panel on the right front of the oven as seen from the front.

1.2 OVEN COMPONENTS

The major assemblies of the Power Saver II are the stainless steel or baked enamel-finish cabinet enclosure, solid doors, stainless steel cooking compartment with nine-position shelf supports, heating element and contactor assembly, and control panel assembly. Controls and indicators include the thermostat, main power switch, ELEMENTS on indicator light, 60-minute and 5-hour timers, and two-pole circuit breaker. The oven is available in a variety of mounting configurations: 7" *178mm* high counter stand, on legs with shelf and optional storage rack, or stacked on top of another Power Saver II with the bottom unit on 6" *152mm* stainless steel legs.

1.3 BASIC FUNCTIONING

The Power Saver II becomes operational when the power switch is placed in the ON position, doors are closed, and thermostat set. Contactors located in the control section close the circuit to heating elements located underneath and at the rear of the cooking chamber. When the chamber reaches the preset temperature, the thermostat contacts open, causing the contactors to interrupt the circuit to the heating elements. When the temperature in the chamber drops enough to close the thermostat contacts, the circuit closes again. Any number of such cycles might occur during the cooking time, indicated by the ELEMENT indicator light coming on and off.

1.4 SERVICE

Required service, both preventive and corrective, is explained in section 6. Should repairs be required, a network of authorized agencies is available to assist with prompt service. A current directory of Authorized Service Agencies may be obtained by contacting:

Product Service Department
Market Forge
35 Garvey Street
Everett, Massachusetts 02149
(617) 387-4100

Product Service Department Market Forge
Canada, Ltd. 1375 Aimco Blvd., Unit 5
Mississauga, Ontario, Canada L4W 1B5
(416)621-9252

The model and serial number must be referenced when corresponding with Market Forge. The data plate with serial number is located on the center of the bottom front trim ledge.

SECTION 2 INSTALLATION

2.1 RECEIVING

The unit is shipped strapped and bolted to a skid, and covered by a corrugated container. Packing materials must be removed prior to installation Examine shipment for external or internal damage and completeness. A complete shipment normally includes the oven unit, two shelf supports and five interior shelves, a carton containing stand components (if a stand has been specified), and a packet of documents pertaining to the unit.

GENERAL CAUTION: Tilt oven onto back or left side (seen from front) to access bottom when necessary DO NOT AT ANY TIME LAY THE OVEN DOWN ON ITS TOP , RIGHT SIDE, OR FRONT TO DO SO MAY DAMAGE THE EQUIPMENT AND INVALIDATE THE WARRANTY.

2.2 ASSEMBLY

Set-up assembly procedures for the various oven configurations are described in the following paragraphs. Assembly requires that the stand be completely assembled first, then set in place and the oven mounted upon it before service connections are completed.

2.2.1 Single Oven on Modular Base

1. Screw adjustable feet into cabinet base.
2. Mount oven to base using four 3/8 - 1 6 x 3/4 lg. hex head cap screws and four 3/8 plain washers provided.
3. Proceed to subsection 23.

2.2.2. Oven on 7" (178mm) Stand

1. Screw legs (Figure 2-1, #4) into top frame assembly (1).
2. Place into position front and rear channel assembly (2) and side angles (3). These items are loose parts and are secured with mounting of oven to stand.
3. Mount oven to stand using four % - 1 6 x % lg. hex head cap screws and four % plain washers provided.
4. If oven is to be stacked, proceed to paragraph 2.2.4.

2.2.3 Stacked Ovens on 7" (178mm) Stand

1. Mount bottom oven on stand (Figure 2-2) using hex head screws and washers provided.

NOTE

Stand is 32" *813mm* front to back. When used with deep oven, overhang may be either front or back, as desired. (Recommended overhang is in back)

2. Remove upper trim strip screws on front of lower oven. This is necessary to permit door adjustment, if required, at a later date.
3. Stack top oven on bottom oven.

NOTE

If stacked ovens are adjacent to moisture producing equipment (such as kettles or steam cookers) it is necessary to prevent condensation from entering the control section of the bottom oven. The seam between the two ovens, and between the ovens and the moisture producing equipment, must be sealed with silicone synthetic rubber or equal high grade sealant.

4. Proceed to subsection 2.3.

2.2.4 Oven on 28" (711mm) Open Stand

1. Place top frame (Figure 2-3, #2) upside down on a clean, smooth surface.
2. Place front and rear angle assemblies (8) (Stainless stands only) and legs (1) into position.
3. Align holes in legs, frame and angles. Secure using carriage bolts, lockwashers and hex nuts provided.
4. Align holes in shelf (3) with leg holes and secure using hardware (5,6,7).
5. Screw adjustable feet (4) into stand legs.
6. Install four clips for oven rack supports inside top frame using hardware (5,6,7) (included with rack support option).
7. Place stand in upright position. Install rack.

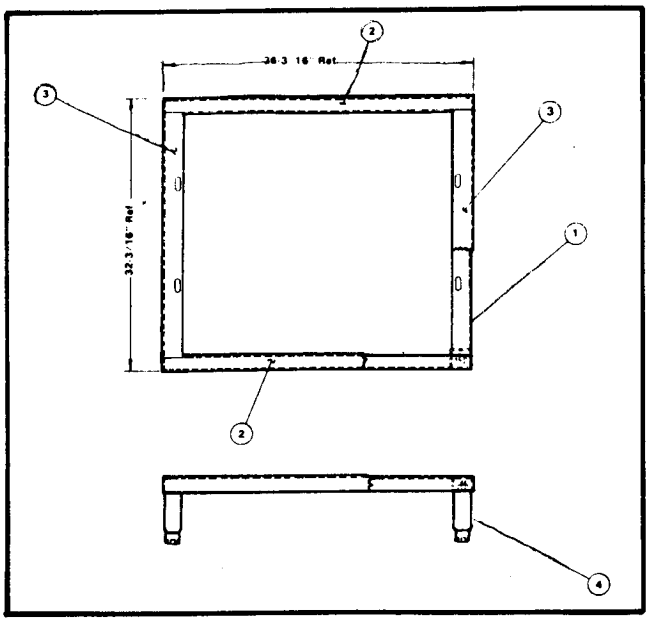


Figure 2-1 Counter Stand Assembly .

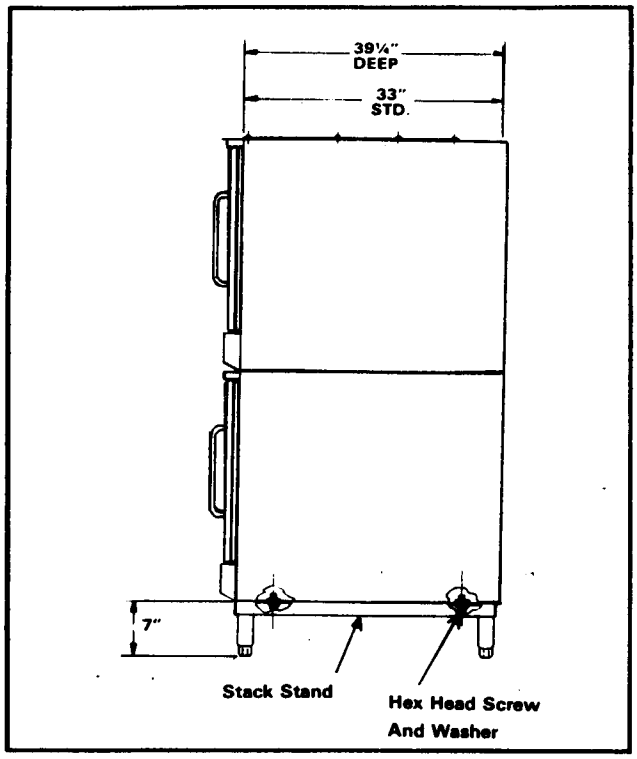


Figure 2-2 Stacked Oven Assembly .

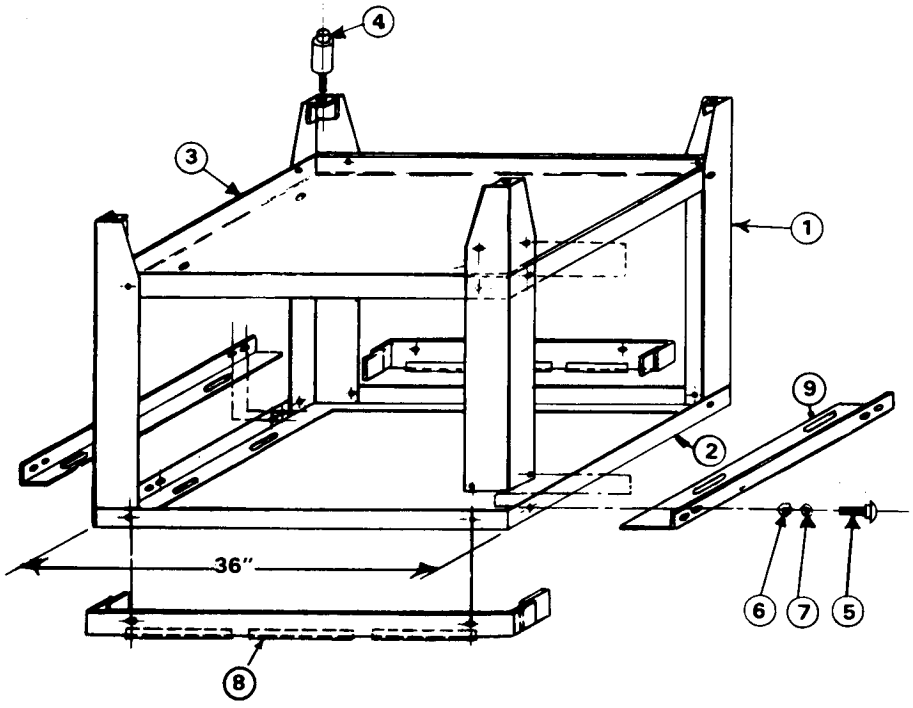


Figure 2-3 Open Stand Assembly (Inverted)

supports (if supplied), inserting ends through holes in clips and shelf.

8. Mount oven to stand using four 3/8 - 1 6 x 3/4 lg. hex head cap screws and four *3/8* plain washers provided.

2.3 ELECTRICAL CONNECTION

Where applicable, all wiring shall be done in accordance with the Canadian Electrical Code ANSI C1 - 1975. Figures 5-1, 5-2 and 5-3 show the various internal wiring configurations for the different models and voltages.

1. Pull bottom trim panel forward to release from spring catches and lower to full open position as shown. See Figure 2-4.
2. Remove screws and terminal block cover (3,2).
3. Bring power supply line in through 1 3/4" *44mm* access hole in rear panel and feed through conduit.

NOTE

If desired, right side panel(s) may be removed from oven(s) to facilitate connection.

4. Connect line to terminal block. This is a *1/2" 1 3mm* conduit connection. Use wire suitable for at least 90°C.
5. If required, ground unit to ground lug located at lower right (seen from front) of terminal block. Consult appropriate electrical codes.

2.4 INSTALLATION CHECK-OUT

After the oven is completely assembled and properly located with electrical supply connected, the unit should be given a thorough check-out before being put into operation. Check-out procedures for the oven are given in subsection 2.4.1. If the unit fails to operate as described, consult the trouble-shooting guide in Section 5 for corrective action.

Before making this check-out, the operator must be thoroughly familiar with the operating procedures in Section 3, and with the function of each control described in Table 3-1. Reference Figure 3-1 for identification of controls.

2.4.1 Oven Check-Out & Adjustments

Begin check-out procedure with power switch and thermostat dial in OFF positions. A final check of the controls and connections should be made as follows:

1. Make sure that the fan guard and deflector are properly installed. See Figure 6-1.

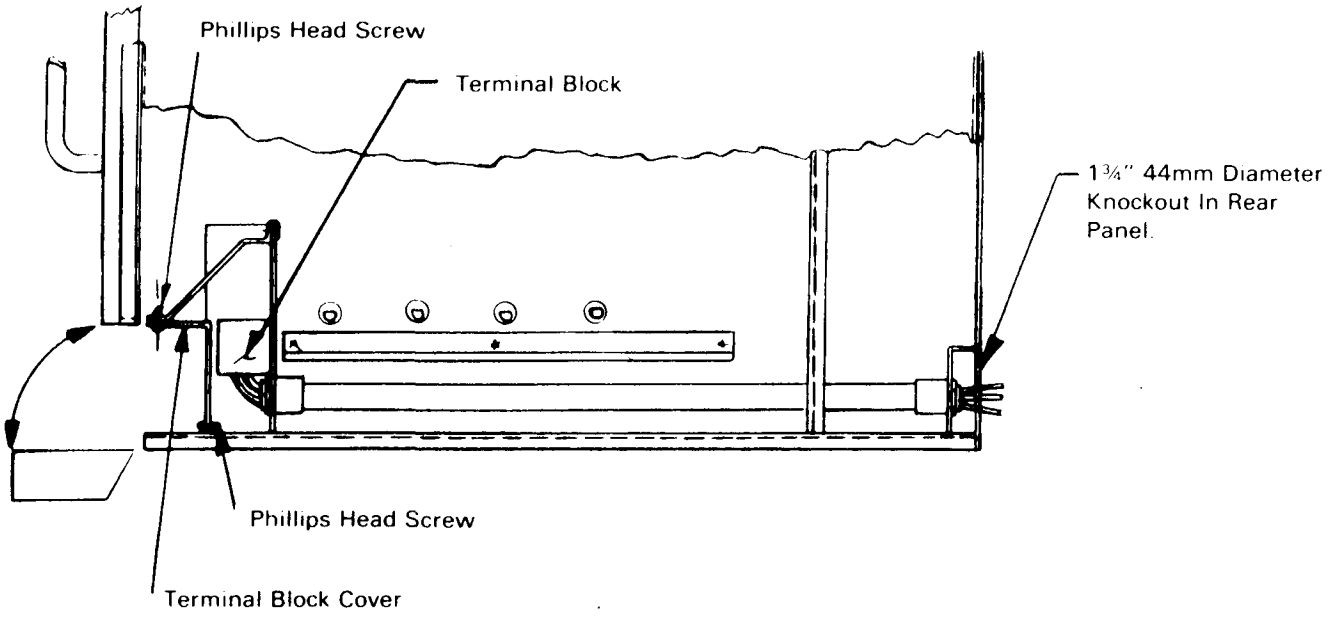


Figure 2-4 Electrical Connection.

2. Seat wire shelf supports in mounting locations inside oven, and slide shelves into position with raised 'stop' edge at rear.

NOTE

Make sure wire shelf supports are in, not on, brackets

3. With a level on the oven shelves, make sure the oven is level both front and back, left and right To adjust, turn feet in stand legs.
4. Make sure power supply is available to the oven
5. Set thermostat dial at 350°F.
6. Place power switch in the ON position with doors open
7. Close doors. Indicator light should come on; fan should come on and rotate clockwise (seen from front). If not, see Table 5-1.
8. Indicator light will remain on while oven is heating, and go out when preset temperature is reached. During the heat-up period, some slight smoke or fumes may be produced by oil or grease on metal surfaces. This should cease after five minutes.
9. After this check is completed, turn thermostat dial and power switch to the OFF position.

2.4.2 Shut-Down Procedure

1. For daily shut-down, place thermostat dial and power switch in OFF position.
2. For extended shut-down, place thermostat dial and power switch in OFF position. Leave doors ajar.

SECTION 3 OPERATION

3.1 OPERATING CONTROLS AND INDICATORS

All the controls required to operate the oven are listed in Table 3-1, with a short functional description of each. Figure 3-1 shows the physical location of each control and indicator.

3.2 OPERATING PROCEDURES

Before attempting to use the oven for cooking, be sure that proper electrical connections have been made, and fan guard and deflector are properly mounted. (See Figure 6-1).

3.2.1 Preheating

1. Arrange shelf positions according to the item to be cooked. Refer to Test Kitchen Bulletin #41 for correct positioning.
2. Place ON-OFF switch in the ON position and close doors. Fan will begin rotating. If not, reset circuit breaker.
3. Set thermostat dial to desired cooking temperature. Element indicator light should come on.
4. Allow oven to preheat for about 15 minutes. Preheating is complete when indicator light goes out. Do not waste energy by turning the oven on too early,

3.2.2 Cooking

The oven is ready for cooking use when the element indicator light goes off. The load should be adjacent to the oven so that the doors will be open for as short a time as possible.

1. Load oven.
2. Close doors and set timer for desired cooking time. Buzzer will sound at end of preset interval.
3. Unload oven and proceed as follows:
   a) If oven is to be turned off, place thermostat dial and ON-OFF switch in the OFF position.
   b) If oven temperature is to be lowered, reset the thermostat to the desired temperature and close the right door. Fan will continue to operate with left door open. When light comes on, oven is at lower temperature. Right door is then closed until light comes on to show that temperature is stabilized.
4. Place thermostat dial and ON-OFF switch in OFF position for daily shut-down. For extended shut-down, place dial and switch in OFF position and leave doors ajar.

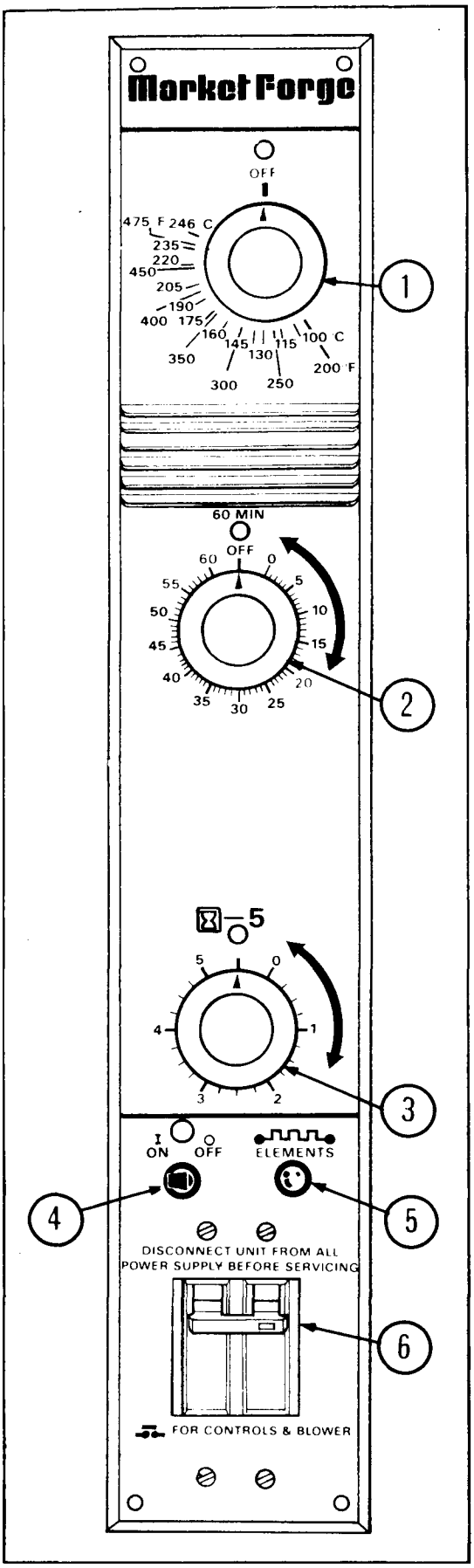


TABLE 3-1
OPERATING CONTROLS AND INDICATORS

FIG. 3-1 REF.	DESCRIPTION	FUNCTION
1	Thermostat Control	Regulates oven temperature. Controls heating element operation.
2	60-Minute Timer	Electric timer to aid operator in timing cooking cycle. Does not control oven operation.
3	5-Hour Timer	Same as 60-Minute Timer.
4	ON-OFF Switch	Controls electrical power to thermostat and fan motor. Must be in ON position for oven to operate.
5	Indicator Light	Indicates when lit that heating elements are operating. Cycles on and off with thermostat control.
6	Circuit Breaker	Protects fan motor and control circuits. Must be in ON position for oven to operate.

Figure 3-1 Operating Controls & Indicators

SECTION 4 PRINCIPLES OF OPERATION

4.1 GENERAL

The Power Saver II electric convection oven uses a carefully designed insulation system, which achieves optimal cooking heat from power consumed. A convector fan distributes heated air uniformly throughout the oven interior. Heat is supplied by electric elements, controlled by a thermostat mounted on the control panel.

4.2 HEATING CIRCUITS

With electrical power available, power switch on, doors closed and thermostat set, a circuit is closed to a contactor mounted behind the oven controls. This contactor in turn closes, supplying power to the oven heating elements, located beneath and at the rear of the cooking chamber.

4.3 ELECTRICAL CIRCUITS AND CONTROLS

Input power is connected at the terminal block mounted at the right front of the oven, behind the hinged lower trim. The control circuit is shown in the schematic drawings. Figures 5-4 & 5-5. They show the relationship of each control and the sequence of operation. A brief description of major electrical circuit components is included in the following paragraphs.

4.3.1 Circuit Breaker

A 15 Amp circuit breaker located at the bottom of the control panel provides overload protection for the 208/240 volt branch circuit to controls. Input connection is made from L1 and L3 for 3-phase connection, L1 and L2 for single-phase, and N and L3 for four-wire, 3-phase. It feeds power to the poles of the power switch.

4.3.2. ON-OFF Switch

Control of power to the oven control circuits is provided by the ON-OFF Switch. It is a double-pole, double-throw toggle switch connected between the circuit breaker and the door switch.

4.3.3 Door Interlock Switch

The door interlock switch is a single pole, two position microswitch with normally open contacts. The switch lever is operated by an actuating bar built into the door jamb of the right side door. When the door is open, the bar remains retracted with the switch contacts in the normally open position. When the door is closed, the door pushes the actuating bar against the switch lever to close the contacts. Connected into the circuit for the fan and thermostat, the door switch interrupts fan operation and deactivates the heating circuits when the door is opened.

4.3.4 Thermostat Control

The thermostat is a bulb and capillary type system, manually adjustable from 200-475°F *94-246°C.* The oven is put into an automatic heating cycle with the setting of the thermostat to any of its calibrated temperature settings. Expansion and contraction of gas within the capillary/bellows system in response to temperature change opens and closes the thermostat contacts, energizing and deenergizing the heating element circuit.

4.3.5 Indicator Light

The Indicator Light is wired to operate only when the circuit is completed through the thermostat control to the coil of the heater contactor. It is on only when the heating elements are under power.

SECTION 5 TROUBLE-SHOOTING

5.1 GENERAL

The information in this section is intended to assist both the operator and service personnel in locating the general source of problems which may occur with the Power Saver II. Before following any of the procedures given in this section, the operator should be thoroughly familiar with the operating instructions and the function of all controls described in Section 3. If the problem cannot be readily corrected, the operator should contact the nearest authorized Market Forge service agency for assistance.

5.2 TROUBLE-SHOOTING GUIDE

A general trouble-shooting guide for use by service personnel is given in Table 5-1.

TABLE 5-1 TROUBLE-SHOOTING GUIDE

PROBLEM **Probable Cause**	**Remedy**
1. CONVECTOR FAN FAILS TO OPERATE. a) Power to oven is off. b) Control circuit breaker open. c) ON-OFF switch off. d) Right oven door open. e) Faulty circuit breaker, ON-OFF switch, door switch, fan motor, wiring.	Locate external circuit breaker for power and place in ON position. Reset to ON position. Place in ON position. Close door. Test each component and connecting wiring. Replace as required.
2. OVEN WILL NOT HEAT WITH THERMOSTAT AT MAXIMUM SETTING, (FAN OPERATING). a) Faulty thermostat or wiring. b) Thermostat contacts or coil faulty.	Test thermostat and connecting wiring. Replace as required. Replace Thermostat.
3. INDICATOR LIGHT FAILS TO LIGHT WITH THERMOSTAT SET, FAN OPERATING, OVEN HOT. a) Indicator light burned out. b) Faulty wiring.	Replace light. Check wiring and repair as needed.
4. ERRATIC OVEN TEMPERATURE. a) Faulty thermostat operation.	Recalibrate or replace as required. See subsections 6.3.2 and 6.4.5.
5. UNEVEN HEATING. a) One or more heating elements inoperative.	Check wiring to elements; check for burned-out elements. Replace as required.

5.3 ELECTRICAL FAULT ISOLATION

Correction of an electrical fault first requires isolation of the fault to a single circuit or component In most cases, the nature of the failure and its effect upon the operation of the oven will he sufficient to isolate it to one or more circuit elements Table 52 is provided as a guide for isolating electrical faults

5.4 ELECTRICAL TROUBLE SHOOTING PROCEDURES

Before performing the trouble-shooting procedures in this section, the servicer must be familiar with the function of all controls as described in Section 3 and the Principles of Operation described in Section 4.

Electrical trouble-shooting procedures which follow require access to components and terminals of the operating controls. Electrical controls are reached by removing the control panel as described in paragraph 6.4.1. Wiring and terminal locations are shown in figures 5-1, 52, and 5-3 Figures 54 and 5-5 show the circuits in schematic form.

5.4.1 Incoming Power

Before trouble-shooting any of the electrical parts or assemblies, make sure power is being supplied to the terminal block (figure 7-3, 8A). With power connected to the oven an a-c voltmeter is used to measure 208 or 240 volts (depending on the oven model) across terminals. Make sure the unit is properly grounded to the ground lug beside the terminal block. If the proper voltage (as noted on the unit rating plate) is present, the fault lies in the electrical circuits of the oven

5.4.2 Electrical Inspection

The first step in any electrical trouble-shooting procedure is a thorough inspection of all wiring connections. To access the electrical components, remove panel as described in subsection 6 4.1

WARNING

Before removing the control panel or checking connections or wiring, make sure incoming power is shut off. When power is supplied, all exposed terminals carry at least 208 volts.

Check all connections by hand to ensure that all connection points are tightly secured. Use a screwdriver to tighten if necessary Inspect all quick-disconnect terminals for evidence of corrosion. Terminals in this condition should be replaced.

5.4.3 Thermostatic Control

5.4.3.1 Thermostat Contacts

Defective contacts will result in failure of the oven to operate properly. If the oven fails to heat when the thermostat knob is set to the desired temperature, the fault may be the thermostat switch contacts or thermostat wiring. When this occurs, remove the control panel (subsection 6.4.1) and proceed as follows:

1. Turn off power to the oven at circuit breaker
2. Disconnect all wires from thermostat terminals. (See Figures 5-1, 5-2, and 5-3).
3. Rotate the thermostat knob to the maximum setting. With the oven cool, a zero ohm reading should be obtained on the ohmmeter. If zero reading cannot be obtained, contacts are defective and the thermostat must be replaced.
4. Remove ohmmeter and replace all leads on terminals as shown on appropriate wiring diagram.

5.4.3.2 Thermostat Capillary

A defective or punctured capillary/bellows system may cause continuous operation of the elements. If continuous operation occurs and recalibration of the thermostat as explained in subsection 6.3.2 fails to correct the problem, the entire thermostat control must be replaced.

TABLE 5-2 ELECTRICAL FAULT ISOLATION

FAILURE	FAULT LOCATION
1 Oven will not operate when thermostat is set.	a. Incoming power b. Door switch c. Thermostat control d. ON-OFF switch e. Circuit breaker f. Contactor g. Wiring
2 Intermittent operation of heaters.	a. Thermostat control b. Contactor coil c. Wiring
3. Convector fan fails to operate.	a. Circuit breaker b. ON-OFF switch c. Door switch d. Fan motor e. Wiring
4. Indicator light off, (heater under power).	a. Indicator light b. Wiring
5 Uneven heating.	a. Heating elements b. Wiring

5.4.4 Wiring

All the electrical components of the Power Saver II (ON-OFF switch, door switch, thermostat control, contactors, circuit breaker, fan motor, and indicator light) are connected to each other by wiring shown in figures 5-1, 5-2, or 5-3. If all the electrical components are operating correctly and the incoming power has been checked, but the unit fails to operate, the fault lies in the wiring.

Using an ohmmeter, wiring continuity between the connections, shown on the wiring diagrams, is readily verified. This is best done in stages, removing only those wires required for each continuity check. As each lead is replaced, it should be checked for evidence of corrosion and cleaned if necessary. All leads must be tightly attached to provide a good electrical connection.

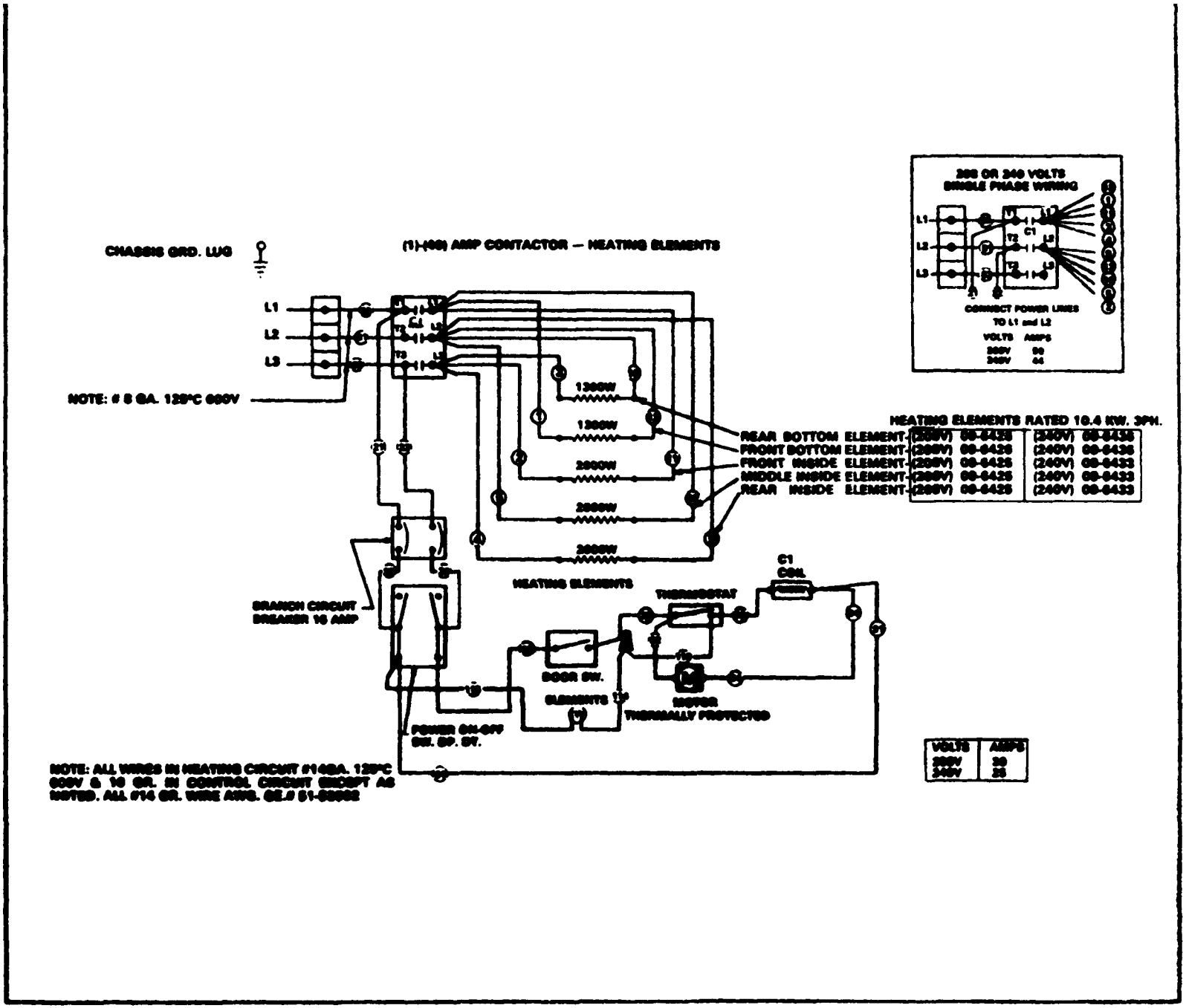
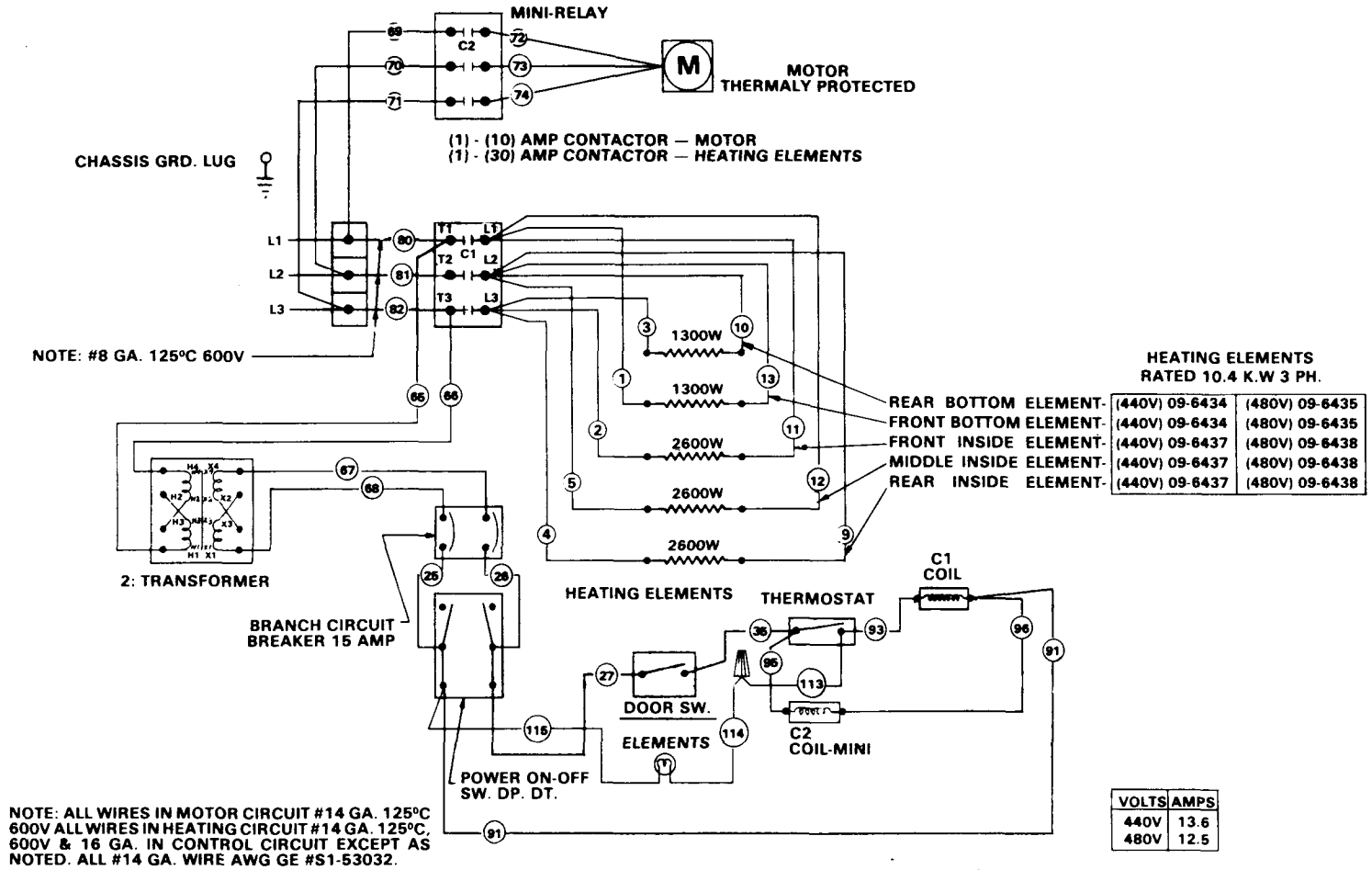


FIG. 5-1 WIRING DIAGRAM -208/240V 60HZ 1 OR 3 PHASE



VOLTS	AMPS
440V	13.6
480V	12.5

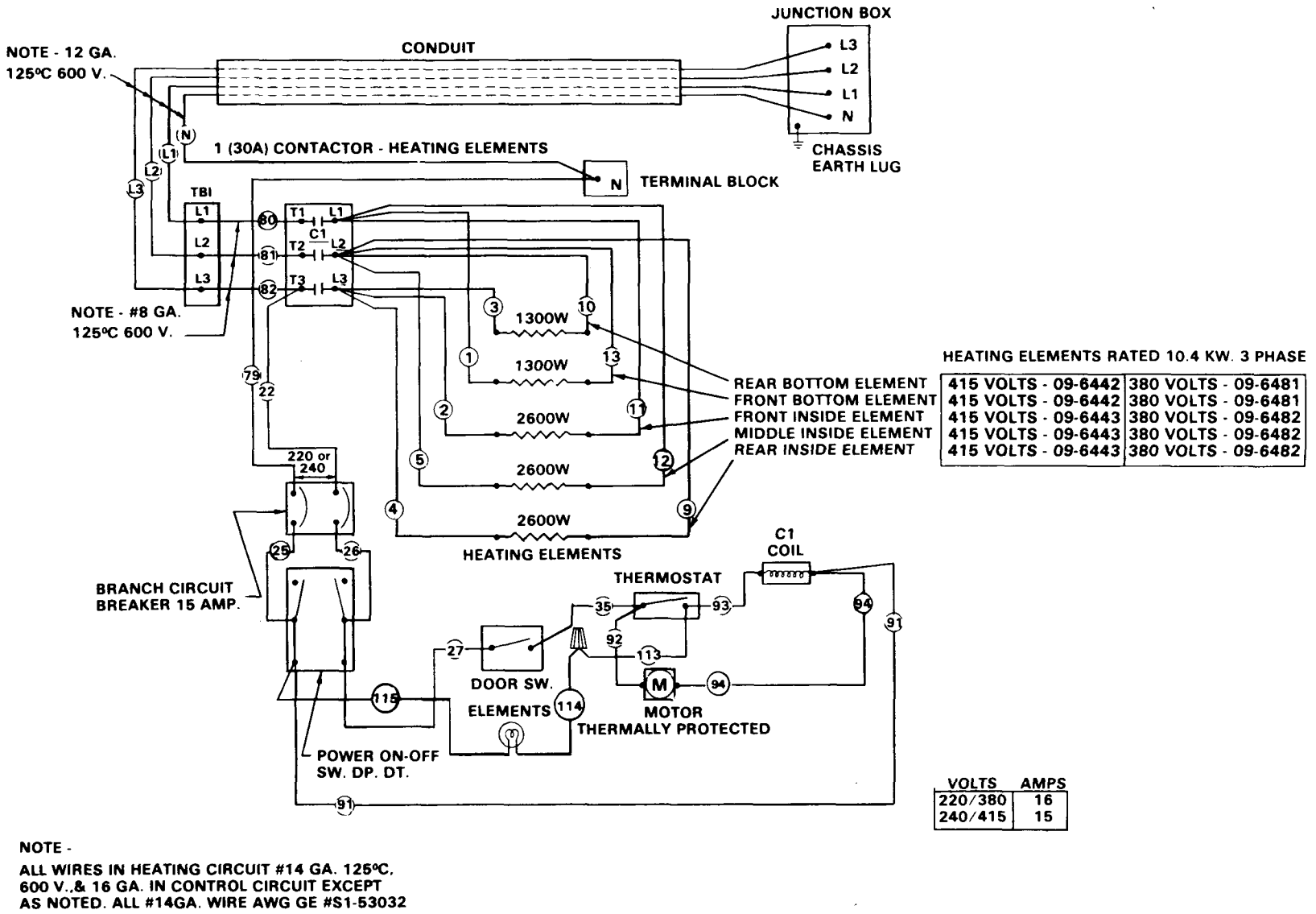


Figure 5-3. Wiring Diagram — 220/240/380/415 Volt, 50/60 Hz.. 3 Phase.

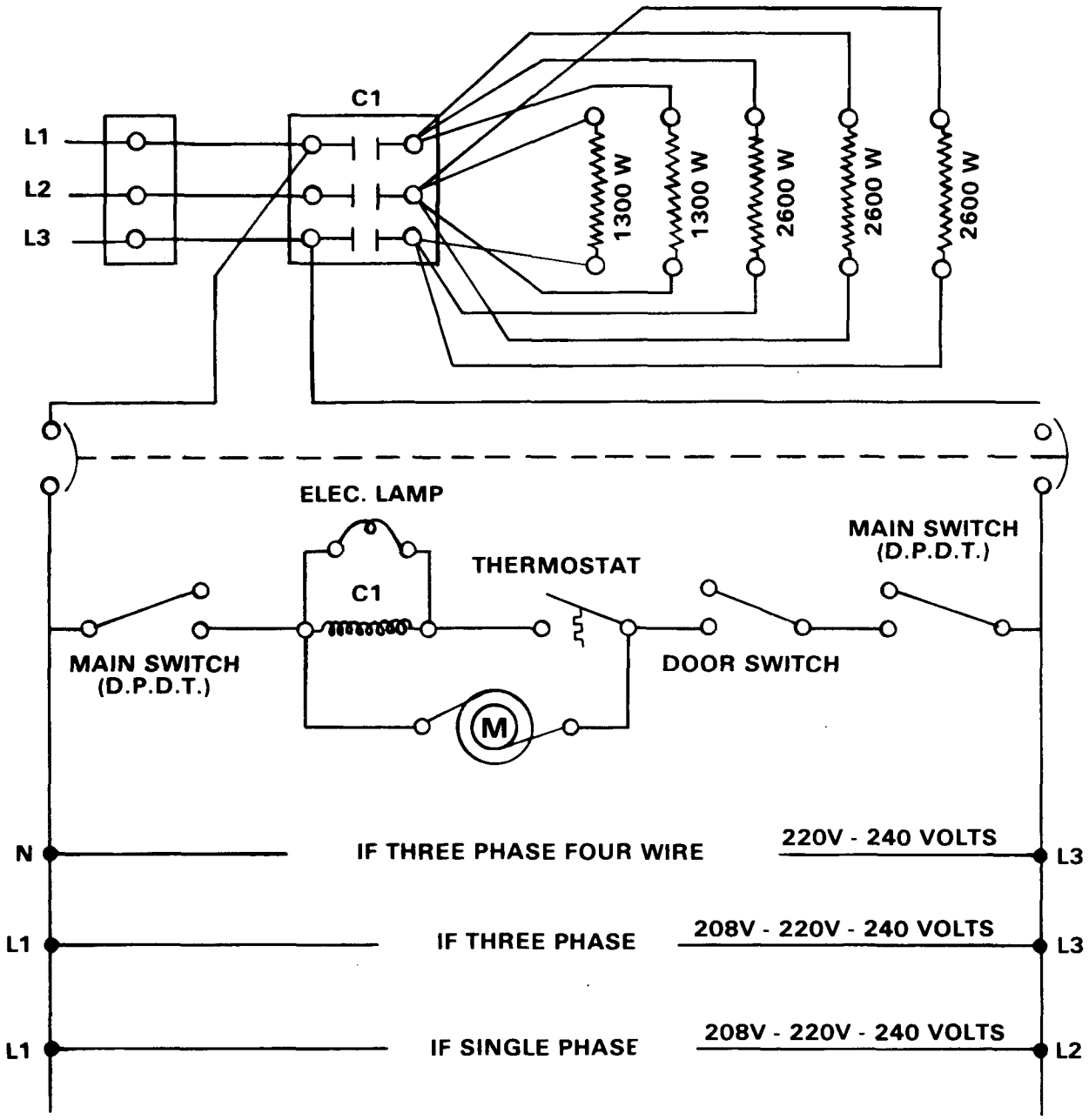


Figure 5-4 Schematic Diagram — 208/240/380/415 Volt, 50/60 Hz.. 1 or 3 Phase

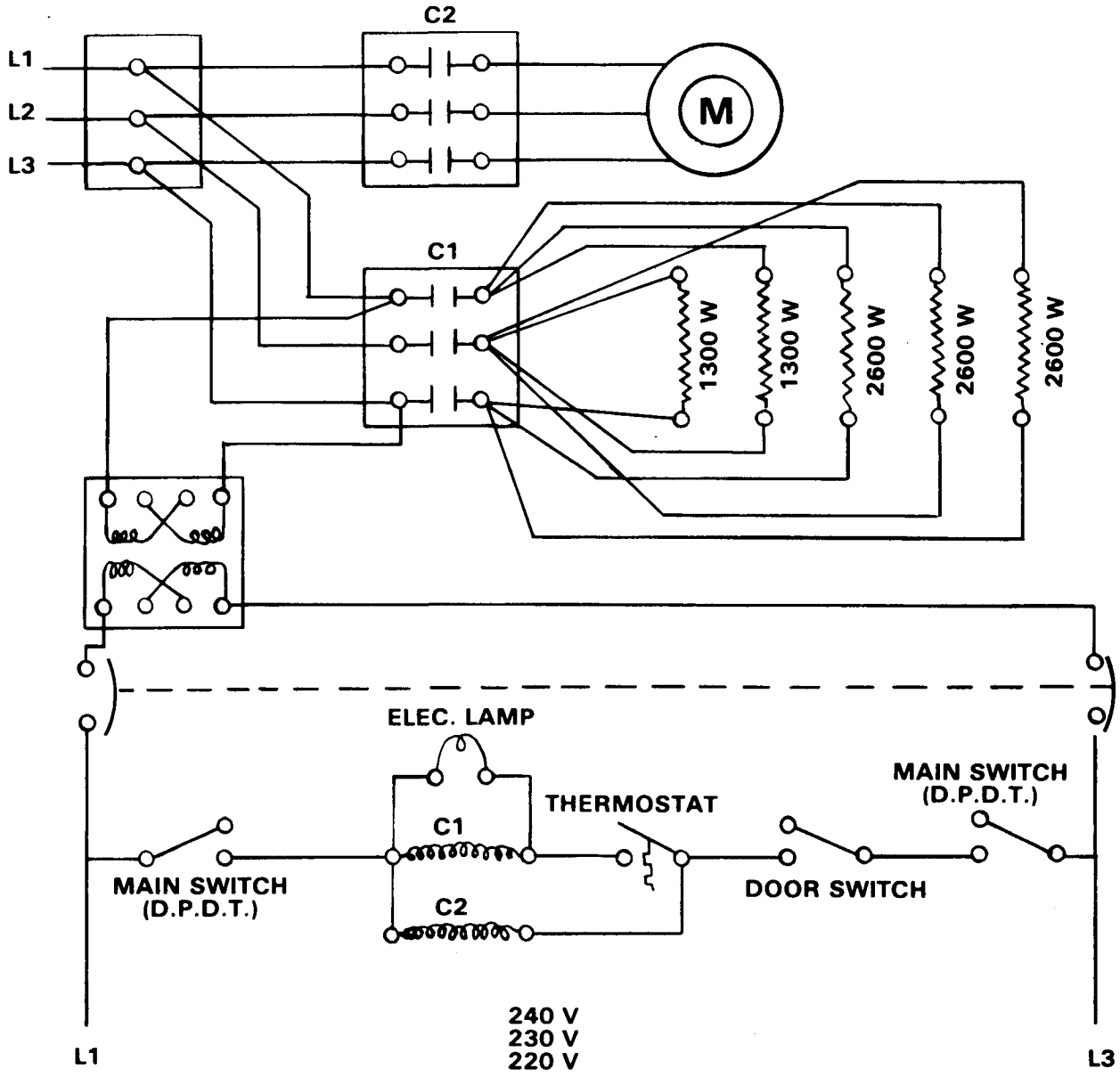


Figure 5-5. Schematic Diagram — 440/460/480 Volt, 60 Hz., 3 Phase.

SECTION 6 MAINTENANCE

6.1 GENERAL

This section contains both preventive and corrective maintenance information. Preventive maintenance may be performed by maintenance personnel at the establishment where the oven is installed. It is recommended that user personnel never attempt to make repairs without the assistance of an authorized service agency. Assistance in service methods or a current directory of authorized Service Agencies may be obtained from Market Forge. (See subsection 1.3).

6.2 PREVENTIVE MAINTENANCE

A good preventive maintenance program in the form of daily cleaning procedures is outlined in the following steps. Use mild detergent and water for washing unless otherwise directed.

1. Remove oven shelves. Wash, rinse and dry.
2. Remove left and right hand shelf supports by lifting up and out toward center of oven. Wash, rinse and dry.
3. Remove deflector and fan guard (Figure 6-1) by lifting up and out. Wash, rinse and dry.
4. Clean interior sides, bottom and top using stainless steel cleaner (not polish). Rinse as required and dry.
5. Replace deflector, fan guard, shelf supports and shelves.
6. Clean both sides of doors, using a stainless steel cleaner. Rinse as required and dry.

6.3 ADJUSTMENT PROCEDURES 6.3.1 Oven Door Adjustments

Access to adjustable parts is obtained by first removing upper oven trim (Figure 7-2 #17), held in place by screws (1 and 2), and lower trim (34), which can be pulled forward without removing hardware.

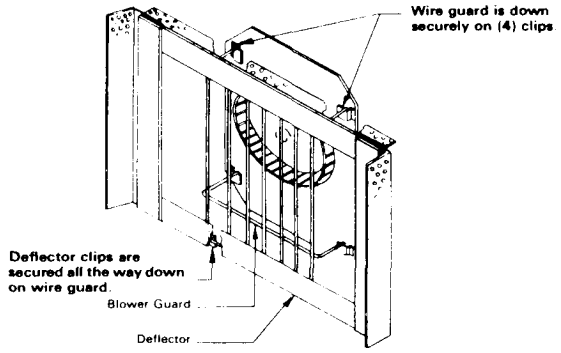


Figure 6-1 Blower Guard/Deflector Assembly.

6.3.1.1 Door Catch Adjustment

1. Loosen door catch assembly mounting screws (Figure 7-2, 4) at top and bottom of door frame.
2. Move door catch assembly (7) in or out as required to hold door firmly against oven front. Do not leave any gaps or space between roller on door catch assembly and dimple on door trim.
3. Tighten the screws (4) and replace trim.

6.3.1.2 Door Switch Adjustment

If convector fan fails to turn on when the right-side oven door is closed and power is on (circuit breaker and ON-OFF switch in ON positions) the door switch may require adjustment. With upper trim removed switch (Figure 7-2, 20) is fully exposed. Adjustment is made by bending the actuator arm until correct operation is obtained.

1. Bend lever to left (away from switch) to shorten switch action throw. Bend right to lengthen throw.
2. Open and close door several times to check switch adjustment. Repeat step 1 as required to obtain proper ON-OFF operation of con-vector fan.
3. Replace upper trim (17).

6.3.1.3 Oven Door Horizontal Adjustment

To adjust the doors horizontally (either left to right or front to back, remove upper and lower trim and proceed as follows:

1. Loosen the four hex nuts (Figure 7-2, 10) [two at top and two (not shown) at bottom] on both doors.
2. Close both doors, and reposition so that doors are square with top angle and control panel. The gap between the raised embossments of abutting door edges should be approximately 1/32" *1mm.* It is important that this gap be maintained the full height of the doors. Tighten nuts (10).
3. Open each door. Check that inside surface of door trim contacts raised edge of oven liner at top and bottom. Readjust if necessary.
4. Replace trim.

6.3.1.4 Oven Door Vertical Adjustment

To adjust the doors vertically:

1. Loosen the two hex nuts (Figure 7-2, 9).
2. Back off top door pivot pin (8).
3. Reposition door by turning bottom door pivot pin (8). Turn pin clockwise (up) or counter-clockwise (down) as required. Top of doors should be level with each other and equally spaced between top and bottom trim.
4. Retighten the two hex nuts.
5. Replace trim.

6.4.1 Control Panel and Contactor Removal

All controls of the oven are serviceable from the front. By removing the control panel (Figure 7-1, 14) all panel components and the contactor mounted behind the panel are accessible for replacement.

1. Remove screws (Figure 7-1, 22) from control panel (14).
2. Pull panel forward being careful to avoid damaging controls and wiring.

WARNING

Controls carry a minimum of 208 volts. Make sure external circuit breaker supplying power to the oven is shut off before removing panel.

3. Remove contactor (Figure 7-3, 6) or panel components identified in Figure 7-4 as required and reassemble.

6.4.2 Right Side Panel Removal

1. Remove six screws from top panel (Figure 7-1, 11) on right side.
2. Remove four screws from rear of right side panel. (2).
3. Remove four screws (22) from control panel. (14).

WARNING

Controls carry 208 volts. Make sure external circuit breaker is shut off before removing panel, to avoid accidental shock or short circuit.

4. Remove right side panel.

6.4.3 Fan Disassembly and Repair

6.4.3.1 Fan Blade Removal

Removal of the fan requires use of a wheel puller kit (part #99-3334) supplied by Market Forge. Wheel puller kit components are shown in Figure 6-2. To remove fan blade, proceed as follows:

1. Remove deflector and fan guard (Figure 7-1, 18, 17).
2. Remove Allen head set screws which secure fan to motor shaft.
3. Install wheel puller over hub of fan using Allen head cap screws.
4. Gradually tighten hex bolt on wheel puller until fan slides off motor shaft.
5. Remove wheel puller from fan blade and reinstall replacement fan on motor shaft as required.

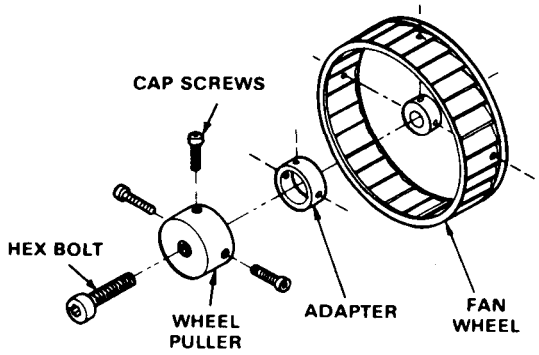


Figure 6-2 Wheel Puller Kit Components .

6.4.3.2 Fan Motor Removal

Motor removal is completed from inside the oven With external circuit breaker shut off, proceed as follows 1 Remove deflector and fan guard (Figure 7-1, 18,17)

2. Remove four nuts (20) and clips (19, 21 and 23) from motor assembly.
3. Pull motor forward. Carefully disconnect electrical wiring.
4. Slide motor off screws. Identify and tag wires.
5. Install replacement motor assembly as required

6.4.4 Heating Element Removal

6.4.4.1 Rear Heating Element Removal

Removal of rear heating elements (Figure 7-3, 1) is completed from inside the oven. With external circuit breaker shut off, proceed **as** follows:

1. Remove oven shelves, shelf supports, (Figure 7-1, 12) deflector (18) and fan guard (1 7).
2. Remove screw from heating element bracket at top right rear of oven liner.
3. Lift element up and off retaining brackets (Figure 7-3, 3).
4. Gently pull bracketed end of element away from oven liner. Remove terminal screws from elements and tag wires for identification.
5. Replace with new element as required, proceeding in reverse sequence of above.

6.4.4.2 Bottom Heating Element Removal

Removal of bottom heating elements is completed from the front of the oven. With external circuit breaker shut off, proceed as follows:

1. Lower hinged bottom front panel of oven, (Figure 7-2, 34).
2. Remove wing nut (Fig. 7-3, 12) and washer (10) from underside of retaining panel (9).
3. Remove screws (11) from front of retaining panel, and lower panel.
4. Remove screws (4) from heating element brackets.
5. Gently slide element (2) out. Remove terminal screws from elements and tag wires for identification.
6. Replace with new element as required, proceeding in reverse sequence of above.

6.4.5 Thermostat Removal

1. Remove screws (Figure 7-1, 22) from control panel (14).
2. Remove five screws that secure perforated capillary tube guard (9) to oven liner.
3. Slide thermostat bulb out from clips (19 & 21) and thread capillary tube through hole leading to the control area.
4. Remove thermostat control (Fig. 7-4, 4) from control panel.
5. Slide entire assembly out front of oven through the control area.
6. Install replacement thermostat as required.

SECTION 7 ILLUSTRATED PARTS LIST

7.1 General

This section contains a complete listing of all replaceable parts of the Power Saver II Electric Convection Oven. For the purpose of parts identification, the unit is broken down into functional assemblies, and each assembly is shown in an exploded view which is keyed to the accompanying parts list. Each parts list contains the figure index number, the Market Forge part number, and an abbreviated description.

7.2 Ordering Information

Orders for repair parts should be directed to the nearest authorized parts distributor. For a current Market Forge Authorized Parts Distributor List contact:

Customer Service Department
Market Forge
35 Garvey Street
Everett, Massachusetts 02149
Telephone: (617) 387-4100

Customer Service Department Market Forge
Canada Ltd. 1375 Aimco Boulevard, Unit 5
Mississauga, Ontario, Canada L4W 1B5
Telephone: (416) 621-9252

7.3 Index of Illustrated Parts Lists

Figure		Page
7-1	Cabinet and Frame Assembly	7-3
7-2	Door Assembly	7-5
7-3	Heating Element Assembly	7-7
7-4	Control Panel	7-8

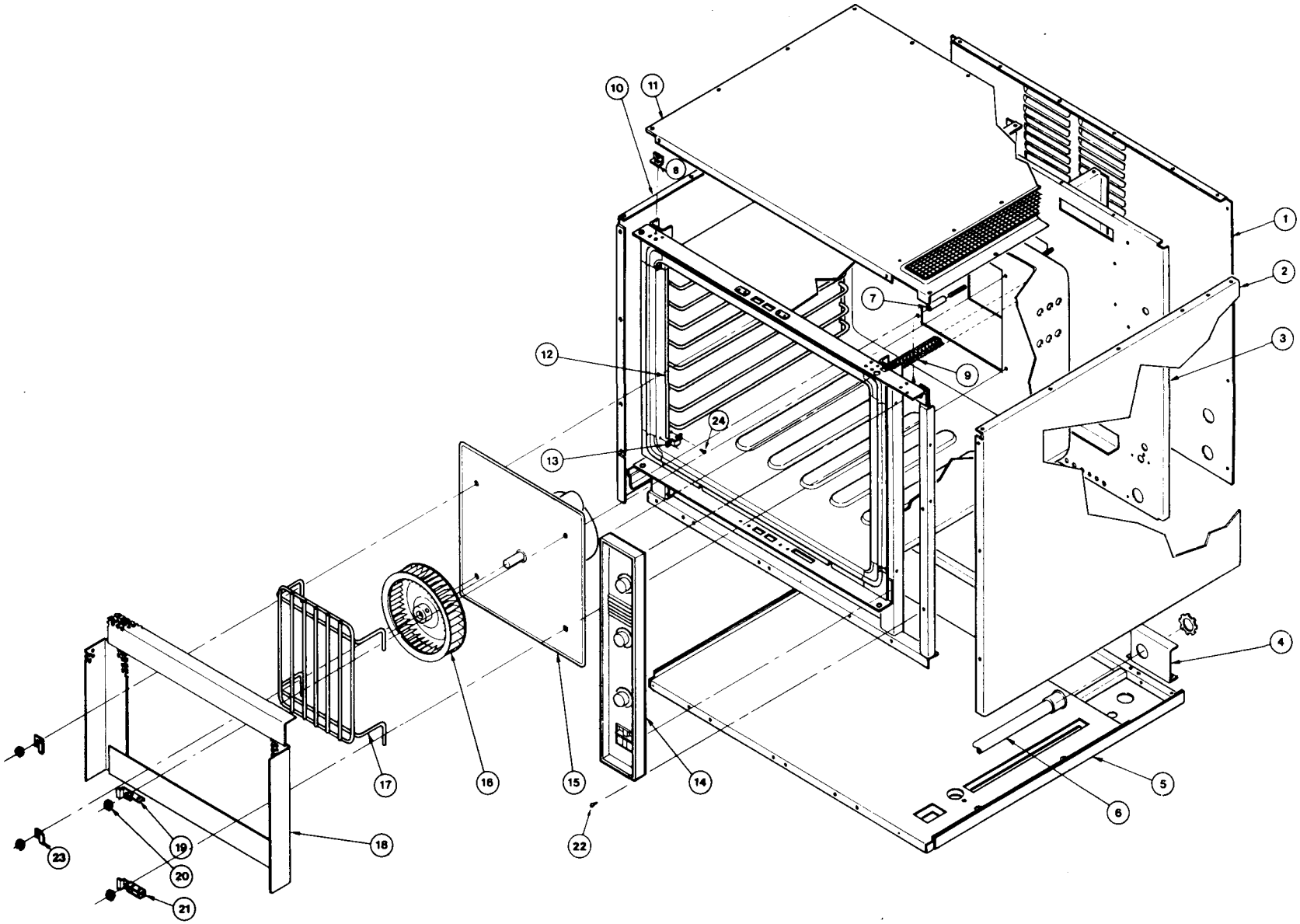


Figure 7-1 Cabinet & Frame Assembly .

Fig. 7-1 Item No.	Part No.	Description
1A	99-1681	Rear Panel, stainless steel
1B	99-1572	Rear Panel, enamel
2A	99-3327	Side Panel, right, 33" standard oven. s/s
2B	99-3244	Side Panel, right, 33" standard oven, enamel
2C	99-3328	Side Panel, right, 39" deep oven, s/s
2D	99-3222	Side Panel, right, 39" deep oven, enamel
3	99-4403	Inner Panel, rear
4	99-3018	Mounting Plate, conduit
5A	99-3981	Base Assembly, standard
5B	99-4368	Base Assembly, deep
6	—	Conduit Assembly, see Figure 7-3, #7
7	99-3939	Spacer, motor mount
8	99-3558	Bracket, top panel, left side
9	99-3271	Guard, capillary tube
10A	99-3329	Side Panel, left, 33" standard oven, s/s
10B	99-3239	Side Panel, left, 33" standard oven, enamel
10C	99-3330	Side Panel, left, 39" deep oven, s/s
10D	99-3223	Side Panel, left, 39" deep oven, enamel
11A	99-4435	Top Panel, 33" standard oven, s/s
11B	99-4431	Top Panel, 33" standard oven, enamel
11C	99-4434	Top Panel, 39" deep oven, s/s
11D	99-4429	Top Panel, 39" deep oven , enamel
12A	10-1295	Rack Support, 33" standard oven
12B	10-1296	Rack Support, 39" deep oven
13	99-1925	Clip, rack support
14	—	Control Panel Assembly, see Figure 7-4
15A	99-3932	Fan Motor Assembly, *1*/2 HP, 115/230V, single ph, 60Hz
15B	99-3936	Fan Motor Assembly, *1*/2 HP 208/240/480V, 3 ph, 60Hz
15C	99-3933	Fan Motor Assembly, *1*/2 HP 110/220V, single ph, 50Hz
16	10-5453	Fan Wheel
17	10-5957	Fan Guard
18	99-3955	Deflector, electric oven
19	99-0950	Bracket, thermometer bulb, top
20	10-2335	Nut. 5/16-18
21	99-4560	Bracket, thermometer bulb, bottom
22	10-1836	Screw, #8-32 x 1/2" lg.
23	99-0951	Clip, fan guard
24	99-1925	Screw, sht. mtl.

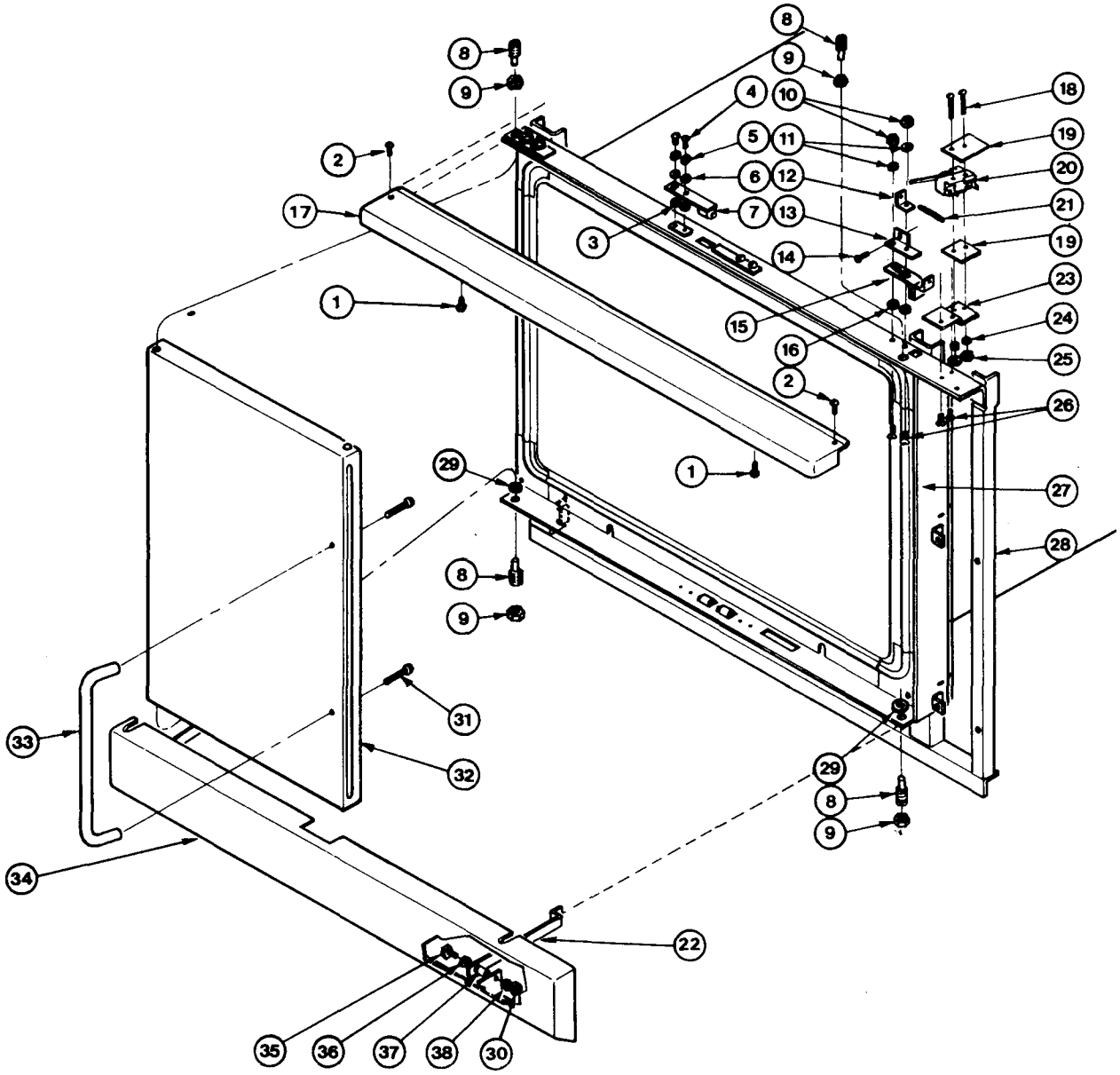


Figure 7-2 Door Assembly.

Fig. 7-2 Item No.	Part No.	Description
1	10-1717	Screw, rnd. hd., #8-32 x 3/8" lg.
2	10-1956	Screw, Phillips truss hd., #10-32 x 3/8" lg,
3	10-2341	Washer, #10, thin
4	10-1759	Screw, rnd. hd., #10-32 x 3/8" lg.
5	10-2509	Lock Washer, #10
6	10-2432	Washer, #10, medium
7	99-3362	Spring Catch Assembly
8	99-3279	Pivot Pin, door
9	10-2552	Nut, 3/8" - 24
10	10-2330	Nut, #8-32
11	10-2518	Lock Washer, #8
12	99-4466	Retention Clip, spring
13	99-3557	Support Bracket
14	10-1761	Screw, Truss hd., #8-32 x 3/8" lg.
15	99-3562	Trip Lever
16	99-3559	Bushing
17	99-3236	Upper Trim
18	10-1883	Screw, rnd. hd., #6-32 x 1" lg.
19	99-4308	Insulator
20	09-6431	Micro Switch
21	09-4401	Spring
22	99-3338	Support Link
23	99-4309	Bracket
24	10-2420	Lock Washer, #6
25	10-2337	Nut, #6-32
26	10-1996	Screw, flat hd., #8-32 x 5/8" lg.
27	99-3237	Shield Assembly, right, front
28	99-3283	Front Frame Assembly
29	99-3279	Spacer, door pivot
30	10-2308	Nut, 1/4"-20
31	10-1990	Screw, button socket, # 10-24 x 1 *3/4"* lg.
32	99-3534	Door Assembly, stainless steel
33	10-0657	Door Handle
34	99-3230	Lower Trim
35	10-1907	Screw, hex hd., 1/4-20 x 5/8" lg.
36	10-2400	Washer, *1/4*"
37	90-3795	Spacer
38	10-2500	Lock Washer, 1/4"

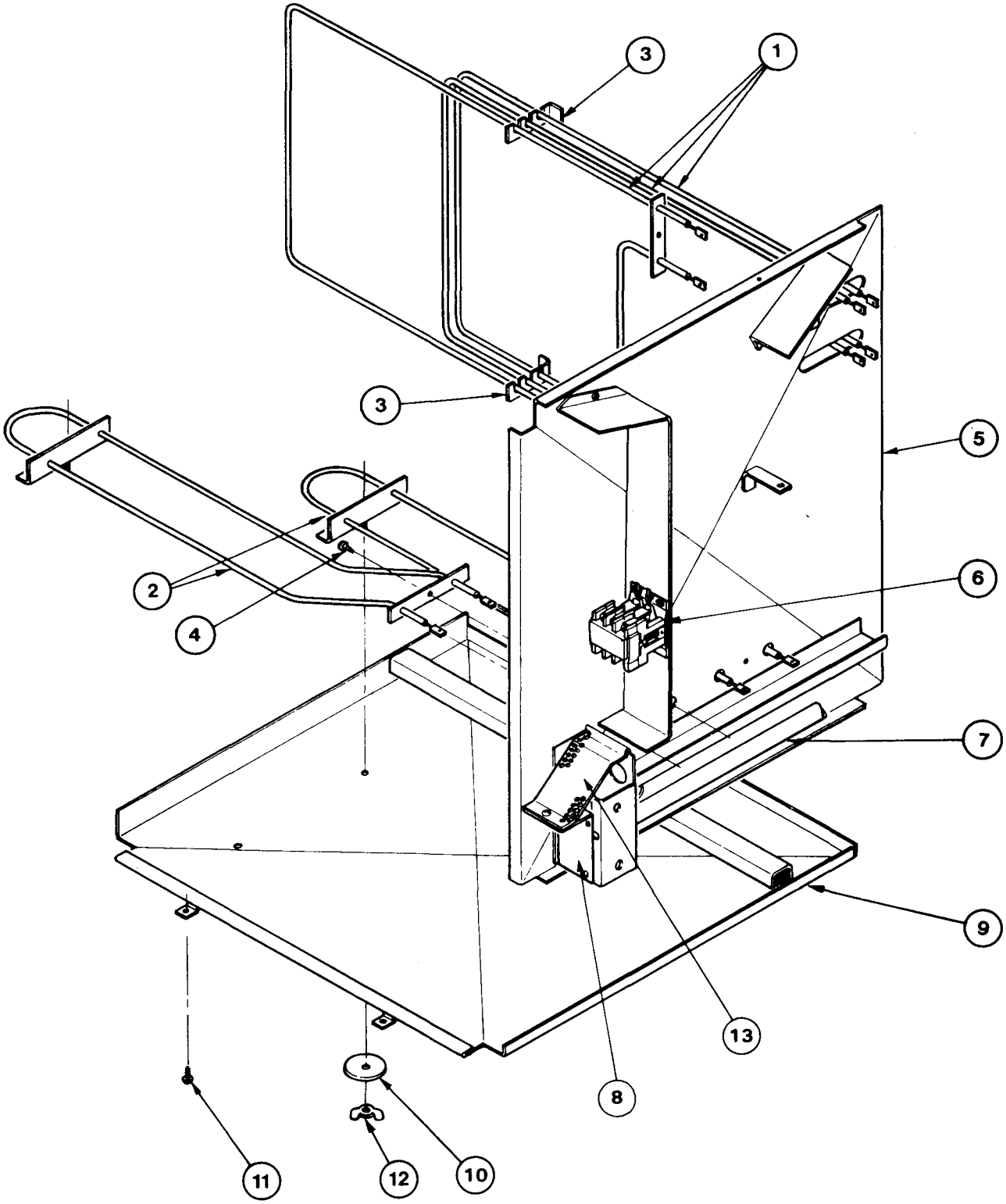


Figure 7-3 Heating Element Assembly .

Fig. 7-3 Item No.	Part No.	Description
1A	09-6426	Heating Element, rear, 208V, 60Hz
1B	09-6436	Heating Element, rear, 240V, 60Hz
1C	09-6437	Heating Element, rear, 440V, 60Hz
1D	09-6438	Heating Element, rear, 480V, 60Hz
1E	09-6443	Heating Element, rear, 415V, 60Hz
1F	09-6482	Heating Element, rear, 380V, 50Hz
2A	09-6425	Heating Element, bottom, 208V, 60Hz
2B	09-6433	Heating Element, bottom, 240V, 60Hz
2C	09-6434	Heating Element, bottom, 440V, 60Hz
2D	09-6435	Heating Element, bottom, 480V, 60Hz
2E	09-6442	Heating Element, bottom, 415V, 60Hz
2F	09-6481	Heating Element, bottom, 380V, 50Hz
3A	99-1653	Bracket, rear elements, 208/240 volt
3B	99-1820	Bracket, rear elements, 440/480 volt
4	10-1735	Screw, #8, sheet metal
5A	99-3950	Retainer Assembly, electric comp., 33" standard oven
5B	99-3953	Retainer Assembly, electric comp., 39" deep oven
6A	10-5476	Contactor, 40 Amp, 208 volt
6B	10-5943	Contactor, 40 Amp, 240 volt
6C	10-5467	Contactor, 30 Amp, 240/440/480 volt
7A	99-4571	Conduit, 60Hz, standard & 50Hz deep ovens
7B	99-4570	Conduit, 60Hz, 39" deep oven
7C	99-4748	Conduit, 50Hz, 33" standard oven
8	99-3335	Cover, terminal block box
8A	10-6962	Terminal Block, (not shown)
9A	99-3575	Bottom Retainer Assembly, 33" standard oven
98	99-3576	Bottom Retainer Assembly, 39" deep oven
10	99-1789	Washer
11	10-1954	Screw, pan hd., #8-32 1 *5/8"*
12	10-2382	Wing Nut, #8-32
13	99-3290	Shield, terminal block
14	10-5396	Transformer, 480/240 volt, 50/60Hz, (for 440/480 volt service - not shown)

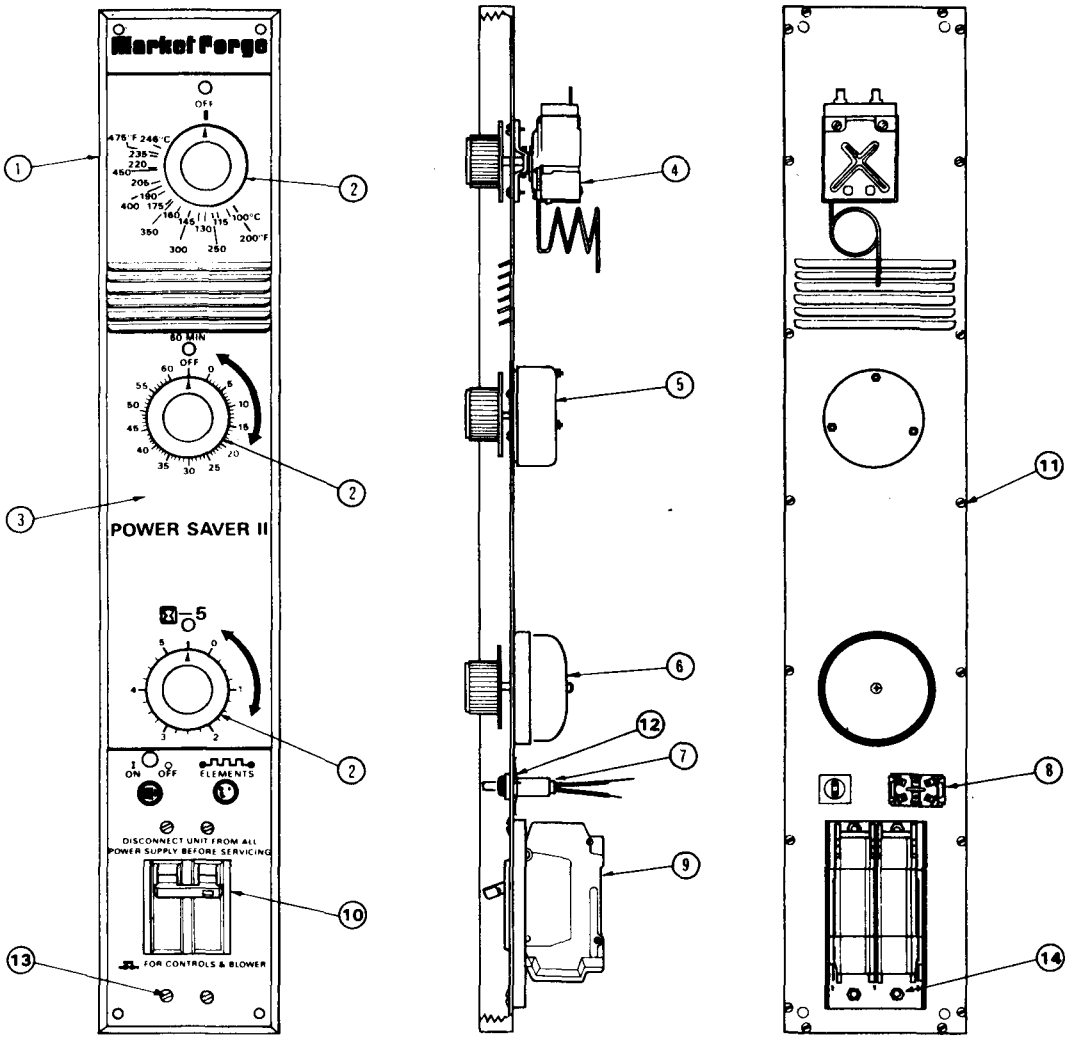


Figure 7-4 Control Panel Assembly .

Fig. 7-4 Item No.	Part No.	Description
1	10-6415	Bezel, panel
2	10-6307	Knob, control
3	99-4561	Nameplate, 60Hz panel
4	10-4714	Thermostat
5	10-5520	Timer, 60-minute
6	10-5553	Timer, 5-hour
7	10-6669	Indicator Light, red
8	10-7903	Toggle Switch, OFF/ON
9	10-6280	Circuit Breaker, 15 Amp
10	10-6521	Mounting Plate, circuit breaker
11	10-1979	Screw, flat hd., #4-40
12	10-2541	Speed Nut, light
13	10-1836	Screw, rd. hd., #8-32 x *1/*2 lg.
14	10-2332	Nut, #8-32